REMARKS

SPECIFICATION

The first paragraph on page 1 has been amended and the reference to related applications on Page 17 has been deleted.

CLAIM OBJECTIONS - 35 USC 112

The objections to claim 2 and to claims 1, 5 and 6 under 35 USC 112 have been complied with and applicants believe that the claims are now compliant with 35 USC 112.

CLAIM REJECTIONS - 35 USC 112

The rejection of claims 1 - 3, 5 and 6 under 35 USC 112 is respectfully traversed.

Applicants have replaced the passage "reconnecting the projected vertices on the surface of the model along an approximation to the cutting line by summing line segments within the computer model polygons to produce the projection of the respective annotation edges on the model" to which the examiner objected with "reconnecting the projected vertices on the surface of the model along an approximation to the cutting line by ~~summing~~ an annotation reconnection process that sequentially connects at least two line segments within the computer model polygons to produce the projection of the respective annotation edges on the model".

Support is found on page 15, lines 1 - 11. The process is further illustrated in the pseudo-code that follows on pages 15 - 17.

CLAIM INTERPRETATIONS

Applicants have amended the independent claims as described in the discussion of the Examiner's paragraph 9 above, so that further discussion of this amendment is not necessary.

CLAIM REJECTIONS 35 USC 103

The rejection of claims 1, 3, 5 - 6 under 35 USC 103 is rt.

Paragraph 13.1

The Combination Suggested Does Not Meet the Claims

With respect to claim 5, Applicants agree that Rose (RO) shows the annotation of a computer model with labels or texture.

The Krishnamurthy (KR) reference, however, does not show the projection of an annotation on to a mesh. The cited passage in CL 7, L39 - 45 refers to the preceding paragraph (CL7, L28-38) in which the start and end points are "two user points" (CL7, L32) that were manually selected by the user. Thus, the example cited is not the projection of an annotation, but the smoothing (CL7, L 49) of a line selected by the user.

This is explicitly specified in (CL6, L60-61) and (CL7, L1-2) where KR states that the user paints the curves directly.

The two-step process described with respect to Figs 3B and 3C (CL7, L49 - 54) does not meet the requirements of all the independent claims that the process use a cutting plane to define the intermediate points between the two projected vertices, as the Examiner has maintained in the first full paragraph of page 9.

Thus, the combination of RO and KR does not meet any of the independent claims. In parallel with the previous argument, the rejection of claims 1 - 6 under 35 USC 103 is respectfully traversed on the grounds that the combination of references suggested by the examiner is not proper..

<u>The Combination Suggested is Not Proper</u>

It is settled that references may not be combined if they are inconsistent - i.e. the implementation of one reference would interfere with the implementation or objectives of another reference.

Accordingly, Applicants maintain that it is not proper to make the combination cited by the examiner.

The Rose (RO) reference teaches annotating in the sense of displaying a text label on a video image. Figure 3.1 of RO shows a video camera that records an image that is annotated and displayed according to RO's method, which may include a computer model that is to be annotated.

The teaching of RO is that of placing labels on an existing computer model, not in calculating a path length.

The KA reference teaches a computationally intensive method of calculating accurately the length along a surface of a human figure (which is known to be much harder to represent than a plane, cylinder or other simple geometric shape). The examiner's attention is called to the equations in columns 22, 23 and 24, showing functions for calculating derivatives and for converting to spherical coordinates that clearly require much computation.

The examiner has argued that: "The artisan would be motivated [to combine Rose with other references] because that would allow to precisely position these curves relative to surface geometry for effective curve drawing and comprise a graph path between the start point and end point using a sequence of connected vertices of the mesh."

Applicants agree with the examiner that KA teaches calculating a path length over a complex surface. Since KA measures clothes that will be worn, an accurate path length and precise positioning of the path are important for his purposes

.

In contrast, precise locations has no value for RO.

The examiner has used the expression "the artisan would be motivated [to combine Rose with other references] because that would allow to precisely position these curves relative to surface geometry for effective curve drawing and comprise a graph path between the start point and end point using a sequence of connected vertices of the mesh."

Applicants disagree with the examiner's opinion and firmly maintain that the artisan would not be motivated to waste computational resources in calculating a path length that has no value for the primary reference.

Since RO is concerned only with annotating a computer model, the examiner must supply a motive or suggesting to make his combination why; i.e. a reason why there is benefit to RO to calculate precise locations of a path length on the surface.

Applicants' attorney has not been able to find such an argument in the office action.

Applicants accordingly maintain that the combination suggested by the examiner is not proper because performing an extensive calculation of path length and location wastes computation resources and provides no benefit to the primary reference.

With respect to the Kung reference, Applicants point out that KU starts with raw data from a scanning operation and generates a 2-D view in the process clearing up false lines in his 3-D model. The examiner has argued on page 17 of the office action that Kung cuts the surface of the model with a plane, but he does not project an annotaiton line or vertices to do it. Applicants readily agree that cutting a mesh model with a plane is known. In this case, Kung is constructing the model, not annotating the model.

Thus, applying KU to RO is not proper because RO already has a computer model.

Further, the KA reference is inconsistent with the claims, in that the claims require that the vertices of the annotation edge are projected onto the model surface, while KA

specifies the opposite - the vertices of the model surface are projected on the standard plate CL 25, L 42 - 45. The examiner has cited a passage in the same column (CL 25, L35 - 40) that refers to a subsequent step - after the vertices have been established, points in between are projected from the standard plate to the model surface.

Claims 1, 5 and 6 have been amended to better distinguish the present invention from the references.

As amended, the claims require that the cutting plane is formed by one of two methods. Applicants have inserted this limitation to distinguish this cutting plane, which produces an annotation line that is close to a perpendicular to the surface from cutting planes that slice through a 3-D model to produce a cross section.

In the last clause, the projected vertices are reconnected by summing the various lines that pass through the pre-existing polygons in the computer model. This limitation distinguishes a complex computationally intensive method such as KA from the simple, economical method addressed by the claims.

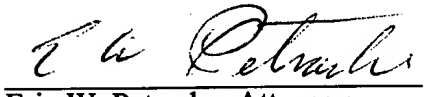
In summary, the claims address a method that is a collection of steps (as are all methods), some of which are known in various forms. Applicants readily agree that wire mesh models and cutting planes were known.

Applicants maintain that the claims, taken as a whole, are non-obvious and that it is not proper to reject the claims on selected portions of other references that are not addressing the same problem and would not be consulted by a worker in the field trying

to construct a computationally economical method of mapping an annotation line to a surface.

For the foregoing reasons, allowance of the claims is respectfully solicited.

Respectfully submitted,



by: Eric W. Petraske, Attorney
Registration No. 28,459
Tel. (203) 798-1857